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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/555,898

12/23/2005

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441P099

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12/06/2007

EXAMINER

SESE, JASON A

ART UNIT

PAPER NUMBER

4174

MAIL DATE

DELIVERY MODE

12/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/555,898	Applicant(s) OCHI ET AL.	
	Examiner Jason A. Sese	Art Unit 4174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) 4-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>21 September 2007; 02 April 2007; 23 October 2006; 03 July 2006; 30 January 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 4-15 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims not been further treated on the merits.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al. (U.S. 2002/0176046).**
5. **Regarding Claims 1-3**, the applicant claims a sealant for liquid crystals comprising as essential ingredients (a) a radiation curable resin represented by the general formula (1) or (2); (b) a photopolymerization initiator; and (c) an inorganic filler having an average particle diameter of 3 μm or less. Further, the radiation curable resin (a) has a content of 30% by weight to 80% by weight.

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Kitamura et al. disclose a sealant for liquid crystal displays that comprises 15 - 84% liquid epoxy resin by weight [0101-0184]], a photocuring agent [0362], and inorganic particles of diameter 3 μm or less [0265–0337].

Concerning the liquid epoxy resin:

In the applicant's disclosure, they indicate that the curable resin (a) indicated by formula (1) can be obtained by subjecting several types of diglycidyl ether to an equivalent amount of (meta) acrylic acid.

Kitamura et al. disclose that the photocuring liquid crystal sealant composition includes a poly(meth)acrylate compound, and a composition containing an epoxy resin [0362]. As part of their epoxy resin, they discuss such epoxy groups as hydroquinone polyglycidyl ether and resorcinol polyglycidyl ether, which are mirrored by the applicant [0124].

It would have been obvious to one of ordinary skill in the art to combine the acrylic and epoxy elements from the disclosure of Kitamura et al. to produce an alternative liquid crystal sealant as claimed by the applicant.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Watanabe et al. (WO 02/092718) describe an epoxy sealant that does not dissolve in liquid crystal material.
- Miyawaki et al. (U.S. 2006/0006362) describe a liquid crystal sealing composition comprising epoxy resin and inorganic filler.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason A. Sese, whose telephone number is (571)270-3473.

The examiner can normally be reached on Mon-Thurs, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 4174

Jason A. Sese
Examiner
Art Unit 4174

/J. A. S./